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July 29, 2011

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: Notice of *Ex Parte* Presentation

WC Docket No. 10-90; GN Docket No. 09-51; WC Docket No. 07-135;
WC Docket No. 05-337; CC Docket No. 01-92; CC Docket No. 96-45;
WC Docket No. 03-109

Dear Ms. Dortch:

On July 27, 2011, Mark Dankberg, CEO and Chairman of ViaSat, Inc. ("ViaSat"); Lisa Scalpone, Vice President of ViaSat and General Counsel of WildBlue Communications, Inc. ("WildBlue"); Michael Rapelyea, Director, Government Affairs of ViaSat; and the undersigned, counsel to ViaSat and WildBlue, met with the Commission staff identified below.

The enclosed two sets of presentation materials formed the basis for the discussion. In addition, a copy of a paper entitled "The CAF Auction: Design Proposal," authored by Paul Milgrom and Assaf Eilat, and dated July 26, 2011, was distributed. That paper is separately being submitted into the record.

Respectfully submitted,

John P. Janka

Enclosures (2)

cc: Amy Bender (WCB)
Gardner Foster (IB)
Rebekah Goodheart (WCB)
Jennifer Prime (WCB)
James Schlichting (WTB)
Michael Steffen (OGC)
Joseph Cavender (WCB)
Jennifer Gilsenan (IB)
Robert Nelson (IB)
Steven Rosenberg (WCB)
Marilyn Simon (IB)
Margaret Wiener (WTB)

USF Reform

ViaSat, Inc.
July 27, 2011

Reverse auctions, open to all technologies, are the best solution for reforming the high cost USF. In unserved areas, the best policy would create fair and open competitive bidding processes that ensure that the lowest cost provider prevails. Allowing competition will facilitate the introduction of faster speeds and better service over time.

Establishing a preferential mechanism to fund existing wireline providers risks raising the cost of the fund and entrenching outdated DSL technology. Should the Commission nevertheless prefer wireline service for large portions of the nation, then a supplemental means should exist to serve the millions that are more cost-effectively served by satellite and other wireless technologies.

Competitive Technologies Fund. If the FCC decides to create a funding mechanism for a subset of homes that are too expensive with wireline ("Competitive Technologies Fund" or "CTF"), the FCC should create a competitive bidding process to win support, specifying these requirements for bidders:

- Minimum performance (speed, bandwidth)
- Maximum consumer price
- Maximum bid (reserve price)
- Fulfillment time period (for aggregate capacity)
- Geographic delimiters (census blocks)

Service areas would be won by the low cost bidder, and FCC should allow "matching" by second (or more) lowest bidder to maintain an ongoing, enduring competitive environment, i.e., at least two winners can serve under the low bid, although the initial lowest cost bidder would receive an incentive, such as a first to market advantage. CTF funds should be awarded before funding is awarded under the wireline fund.

The FCC will identify census blocks as unserved (eligible for USF support under the main fund) or served (ineligible).

- **Unserved Census Blocks**. The FCC will then rank unserved census blocks by cost to serve with wireline (or FTTN). Any census block that is more expensive to serve with wireline is eligible to be served under the CTF. The "cost" would be the NPV of CAPEX and OPEX subsidies required to implement wireline or FTTN service for homes in that census block. The CTF cost would be the cost of the equivalent NPV of the alternative technology with the lowest cost (for that census block).
- **Served Census Blocks - Sprinkles**. Any household within a served census block that is actually unserved, i.e., bypassed, by the wireline provider will be eligible for CTF service. A validated self-certification by the household would be used.

Hypothetical Example:

- A BHOL of **120 kbps** in 2012, could be required. That could be equivalent to a monthly bandwidth usage cap of 150 GB. Bandwidth provisioning (usage) could be required to be escalated at an annual rate determined by the FCC (e.g. 27%), over time periods defined by the FCC and applied equally to all technologies.
- **Consumer Rate** under USF-supported service: An example could be: No upfront or equipment fees, $40/mo in subscriber paid service fees.
- **USF Support.** Support would be capped at a to-be-determined level based on the NPV of all support dollars to the recipient under a specific time period, e.g., NPV determined over 5 years, or over 20-years. Competing bidders could use CAPEX subsidies to reduce the ongoing OPEX subsidies. For example, if a bidder were to win with an NPV of ~$2,000 total, that could be computed in multiple ways:
  - If a 5 year NPV: The winner could receive a CapEx subsidy of $100 and an ongoing OpEx subsidy of $43/mo (Or any other combination yielding the same NPV). For instance, an up front of $500 and a monthly subsidy of $34 yields about the same NPV over 5 years.
  - If a 20 year NPV of $2,000 is the winner then one example would be: CapEx subsidy: $100. OpEx $20/mo

Voice. Of all households that could receive satellite under USF, close to 100% currently have access to landline and about 90-95% to cell phone service. The FCC should subsidize voice service only for the subset of households that have access to neither. It is reasonably likely that some rural telcos would no longer offer landline service if they are no longer subsidized for USF voice. In that case, we propose that wireless service is a reasonable substitute – since a rapidly growing number (already in the many millions) of Americans are choosing to cancel their landline service and rely solely on cellular wireless service at home. We believe that less than 10% of potential satellite broadband subscribers cannot receive basic wireless voice service at home. We believe that a satellite broadband VoIP service is also an acceptable solution for voice – especially when only 1 satellite hop is required. The US government currently subsidizes satellite voice service when selected by rural telcos for their customers – irrespective of whether 1 or 2 hops is required to terminate each call. Nevertheless, we believe the CTF provider could provide telephone service with latency limited to about 1 satellite hop.

- Assume the CTF supports 3 million satellite broadband households. That means less than 300,000 (10%) would need an alternative voice solution (because they have no cellular coverage). For these households:
  - The CTF recipient will provide a low latency solution, or
  - The satellite VOIP solution will detect double hop calls and switch to a low latency satellite for that call.
  - The cost of providing low latency voice service for those calls would be included in the bid by the satellite service provider and included in the NPV calculation. Actual usage risk would be borne by the satellite service provider.

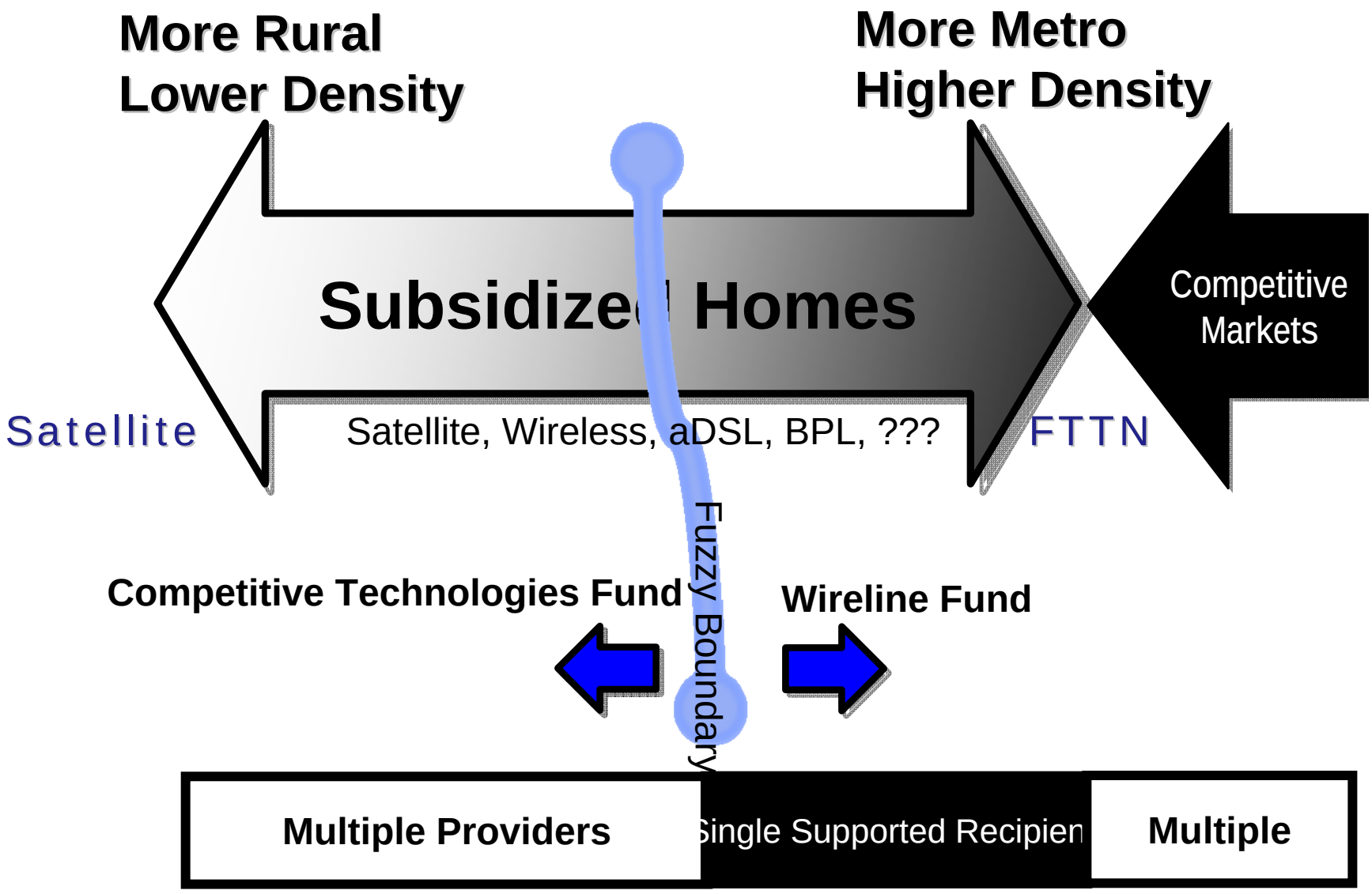
The Role of Satellite in USF Reform

Jul 27, 2011

Preamble

- **Technology neutral reverse auctions with greatest competition deliver best value**
  - ✓ Leverage market forces
  - ✓ Leverage technology advances
  - ✓ Offer progressively higher speeds & better service
- **Conversely, preferences for wireline services**
  - ✓ Likely will increase cost of the fund
  - ✓ Entrench obsolete DSL, inhibit new technology
- **We anticipate USTA proposal will favor wireline**
- **BUT, if wireline granted preference should have a supplemental Competitive Technology Fund (CTF)**
  - ✓ Wireless
  - ✓ Satellite
  - ✓ Any other competitive new technology

Landscape


More Rural
Lower Density
More Metro
Higher Density
Subsidized Homes
Competitive Markets
Satellite
Satellite, Wireless, aDSL, BPL, ???
FTTN
Fuzzy Boundary
Competitive Technologies Fund
Wireline Fund
Multiple Providers
Single Supported Recipien
Multiple

CTF Objectives

- **Cost-effective, high quality service for “expensive” terrestrial areas**
- **Enduring competition in all areas.**
- **Higher speeds than would economically be possible under wireline High Cost fund.**
- **Foster new technologies & blends.**
- **Technology neutral**
- **Competitive dynamics reflect market forces**
- **Can offer voice capability**

More & enduring competition reduces costs.

Major Issues

- **Determining fuzzy boundary between wireline high cost & CTF**
- **Competition mechanism within CTF**
- **Satellite examples**

Boundary Determination

CTF Designation

- **CTF vs. wireline determination based on total NPV (CAPEX + OPEX)**
- **Any census block where X% of wireline subs are:**
  - ✓ **Not capable of being served by FTTN at less than $Y (NPV over N years)**
  - ✓ **Satellite more cost effective for ~47% of USF homes, depending on usage assumptions**

Fuzzy Boundary Factors

- Relative costs
- Relative performances
- Relative improvements in technology over time
- Variations in minimum requirements over time
- Geographic variances
- Customer preference
- Effects of competition

Boundary Determination

- **Geographic delimiters (census blocks?)**
- **Cost / Performance**
  - ✓ **Every wireline home should have better economics than every CTF home**
  - ✓ **CTF homes by definition are “harder”**
- **Feedback & adjustment mechanism**
  - ✓ **Adoption rate**
  - ✓ **Time variations in economics**
  - ✓ **Subscriber preference**
- **Fulfillment capabilities (satellite capacity)**

NPV Calculations

- **Use subsidy NPV for boundary**
  - ✓ **5 year period?**
  - ✓ **20 year period?**
- **Combine Capital Reduction & Monthly Fee**
- **Arbitrary example**
  - ✓ **~$2,000 NPV, ~11% interest rate**

Period	Cap Reduction	Monthly Fee
5 years	$100	$43
5 years	$500	$34
5 years	$1,000	$23
20 years	$100	$20
20 years	$500	$16
20 years	$1,000	$11

CTF Mechanisms

Satellite or Wireless Subsidy

- **Primarily to support additional bandwidth volume**
- **Low-monthly opex other than variable bandwidth**
  - ✓ **Wireline has high fixed bandwidth independent monthly opex**
- **Variable bandwidth NPV minimized via capital reduction**

Bandwidth Volume

- **All technologies except FTTH/N are bandwidth volume constrained**
  - ✓ **Spectrum (satellite, wireless)**
  - ✓ **Middle mile (aDSL, wireless)**
- **Any preference for wireline should be for cost effective FTTN**
  - ✓ **Greater CTF % allows higher $ per home in the wireline areas (more FTTN)**
  - ✓ **Central Office aDSL does not have same value**

FCC Defines

- Geographic delimiters (census blocks?)
- Broadband performance parameters
  - ✓ Speeds (up & down)
  - ✓ Volumes (up & down)
  - ✓ Availability? Reliability? Congestion?
  - ✓ Max consumer retail price
- Max NPV bid (reserve price, time period)
- Construction (fulfillment) time period
  - ✓ E.g. 50% in 1 year, 100% in 3 years

CTF Mechanism

- **Competitive auction for subsidy**
- **Lowest bid (below reserve price) wins**
  - ✓ **Bid evaluation formula could favor lower OpEx subsidy at comparable NPV**
- **Subject to**
  - ✓ **Same performance terms as wireline fund**
  - ✓ **Fulfillment (capacity) limitations**
- **Winning bid gets preferred status in each block (TBD, e.g. time to market)**
- **Next N bidder(s) allowed to compete for homes in area at winning subsidy value**

"Sprinkles"

- **Un-served subs within a "served" area can self-certify**
- **Eligible for CTF**
  - ✓ **Same/similar CTF competition rules**
- **Homes who choose a new provider cause prior subsidy to terminate**

Example Satellite Service Plans

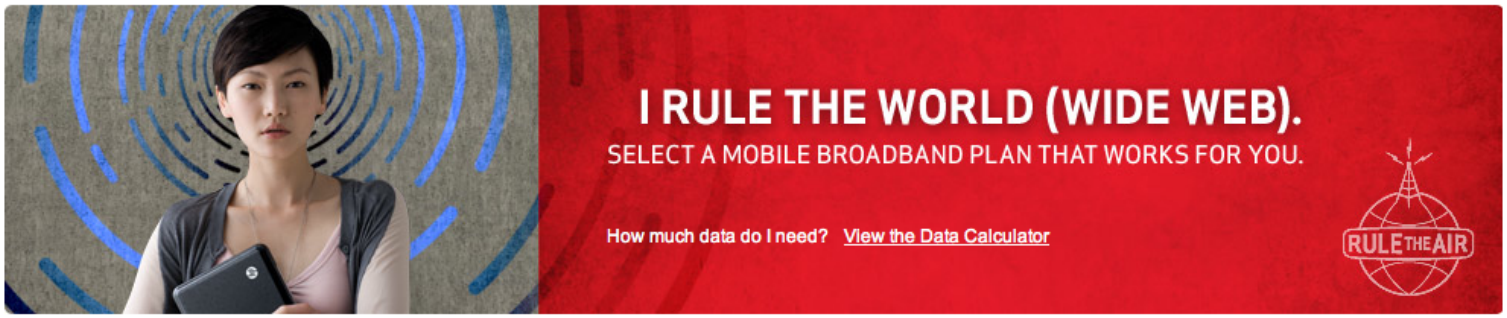
4G Mobile Broadband

RESIDENTIAL BUSINESS WIRELESS Español Store Locator Contact Us About Us Sign In / Register

verizon wireless Explore Shop My Verizon Support Search

Mobile Broadband

Overview | Products | Plans | Coverage & Speed | Verizon Wi-Fi Access



4G Mobile Broadband Plans

Monthly Access Fee	Monthly Data Allowance	Per-GB Rate After Allowance	4G USB Modems	4G Dedicated Mobile Hotspots	4G Tablets
$30	2 GB	$10	—	—	✓
$50	5 GB	$10	✓	✓	✓
$80	10 GB	$10	✓	✓	✓
			Shop	Shop	Shop

4G Mobile Broadband Plans available on 4G Mobile Broadband devices only. Mobile Broadband Plans include Text Messaging [2] and NationalAccess.[3] Standard rates apply to all messages (although it may not be possible to receive them in all circumstances). See Messaging Terms & Conditions for details and blocking options. Typical 4G speeds: 5 to 12 Mbps download, 2 to 5 Mbps upload. [3]

Example Satellite Service

- **~4 to 12+ Mbps downstream speeds**
  - ✓ **Average speed very close to 12 Mbps**
- **~3 Mbps upstream speeds**
  - ✓ **Average very close to 3**
- **Plans vary by volume provisioned**
- **Subsidy NPV goes to volume**
  - ✓ **Cap reduction or operating subsidy**
- **Voice offered to homes without wireless**
  - ✓ **Single hop or lower latency on a per call basis**
- **Satellite technology improving at a faster rate than wireless or DSL wireline**
  - ✓ **Decreasing unit cost per unit volume**